Methods: We evaluated 2 years records of device closure. ASD >25 mm attempted for device closure were studied. They underwent transthoracic 2D Echocardiography (TTE), TEE to characterize defect. Size was determined angiographically/balloon sizing during procedure. Device was made up of Nitinol wires filled with polypropylene or polyster. Device was placed across ASD with/without balloon support. Defect in which, device could not be positioned even after balloon support, was deferred. ASD device was released under TEE to confirm proper position. Postoperatively, rhythm and position was monitored by ECG and TTE respectively. Those having displacement of the device were shifted for surgery. Patient was given aspirin and clopidogrel postop. Patients were followed up on OPD basis and TTE was done during each visit.
Results: 26 patients were attempted for device closure. 12 males and 14 females. Mean age-16.76 years. Mean ASD size-30.67 mm (range-25.2-36.2). Mean IAS size-45.36 mm. Mean size of rims-7.5 mm atrioventricular rim, 7.6 mm interatrial rim, 4.5 mm aortic rim, 5.5 mm of IVC rim and 6.3 mm of SVC rim.Mean device size-32.33 mm.

2(7.69%) defects could not be closed because of inability to position the device. 2(8.83%) devices displaced within mean 8 hours and patients were shifted for surgery.

During immediate postoperative period, 2(8.33%) had junctional rhythm and 1(3.84%) had AV dissociation. All disturbances normalized in mean 27.6 hrs.Mean hospital stay-86 hrs with device in situ and no significant valvular regurgitation

Mean follow up-21 months.All patients underwent TTE regularly.All had ASD device in situ, no shunt, regurgitation or rhythm disturbances
Conclusions: ASD device closure is highly successful procedure in large ASD also.

Complex TAPVC – Challenges and outcomes in our institute

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Background: Management of Total anomalous pulmonary venous connection becomes complex when it is associated with other intracardiac anomalies. Perioperative mortality and morbidity increases significantly. We present our modest experience with the management of complex TAPVC in our hospital.
Methods: Our study group includes eight patients with TAPVC associated with other intracardiac anomalies. There were 3 girls and 5 boys. Four of them were less than 5 kg in weight, and the other 5 were more than 5 kg in weight. Four patients had severe PAH and 4 patients had pulmonary stenosis. Five patients were of supracardiac type and one was cardiac type. Two patients had DORV , Two had TOF, one had dTGA , one had Truncus Arteriosus, two patients had atrioventricular canal defect. 2 patients had pulmonary vein obstruction.
Results: All patients underwent rerouting of pulmonary veins. Concomitant procedures included intraventricular tunnel repair of VSD and infundibular resection in DORV patient. Two patch technique AV canal repair was done for AVSD patient. SVC plasty, atrioventricular canal repair and PA banding were done in unbalanced atrioventricular septal defect with DORV. Intracardiac repair through transatrial approach was done for tetralogy of Fallot. Right ventriclepulmonary artery conduit was done for truncus arteriosus. Areterial switch was done for TGA patient. There were 2 hospital deaths.
Conclusion: Precise surgical techniques and attentive perioperative care will reduce the mortality and improve the outcome though the management of Complex TAPVC is technically challenging.

Evaluation of anomalous coronary origin and course on different imaging modalities

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Introduction: The coronary artery anomalies are rare congenital condition with an incidence ranging from 0.17% in autopsy cases to 1.2% in angiographically evaluated cases.
Methods: Retrospective review of 17,245 patients were done out of which echocardiography was used in 250 patients, Invasive coronary angiography (CAG) in 16828 patients and MDCT coronary angiography in 374 patients as primary detection modality. Indications for evaluation included angina, dyspnea and cyanosis. All patients were evaluated by transthoracic echocardiography. Invasive CAG was done in flat-panel cath-labs. MDCT CAG was done under 128 slice MDCT scan.
Results: A total of 17,245 coronary artery evaluations were done, of which 257 were found to have coronary artery anomalies at a prevalence rate of 1.49%. Most common anomaly detected in infantile period was ALCAPA (26.7%), coronary artery fistula (52%) in pediatric age group, anomalous high origin of coronary artery from same sinus, separate origin of LAD and LCX from left coronary sinus (29.7%) followed by anomalous origin of LCX from right coronary sinus (17.58%) in elderly population. 79.4% had benign anomalies while 20.6% had malignant coronary anomalies. Anomalous origin and course was detected in 202 patients (78.59%) and anomalous coronary termination in 35 (13.62%) patients.
Conclusions: Echocardiography adequately detected proximal coronary anomalies especially in pediatric patients. Invasive coronary angiography and MDCT coronary angiography were comparable for detection of most anomalies of coronary origin (except anomalous high origin near proper sinus). Invasive CAG was slightly better for distal anomalies like anomalous anastomosis.

Safety and efficacy of percutaneous device closure of large post-tricuspid shunts with severe pulmonary artery hypertension in pediatric patients

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Background: Transcatheter closure of large post-tricuspid shunts in patients with severe pulmonary arterial hypertension (PAH)